AIR FORCE MATERIEL COMMAND

# LEADING EDGE

August 2003


*Gen. Lester Lyles, Air Force Materiel Command commander, learns of engineering upgrades being made to the F118 engine's No. 5 bearing oil-supply tube during a May 9 visit to Tinker AFB, Okla. (OC-ALC photo by Ms. Margo Wright)*

## Gen. Lester Lyles: AFMC's great communicator

AIR FORCE MATERIEL COMMAND
LEADING EDGE

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AFMC
AIR FORCE MATERIEL COMMAND

## Cover stories


*Front cover photo and cover design by Ms. Libby Van Hook, Executive Editor.*

# 4 — 13 The Lyles years

*Air Force Materiel Command's top leader hangs up his blue uniform soon, ending more than three decades of Air Force service. Throughout his career, he created an atmosphere of open communication with his three-word motto of "communicate, communicate, communicate." In addition, believing that communication is a two-way street, he listens and responds to the concerns of everyone he comes into contact with. Turn the page and read how Gen. Lester Lyles has used communication to lead the most diverse command in the Air Force with P.R.I.D.E.*

## Mission Progress



## Features



## Departments Briefs



***Read about the Robins Air Force Base, Ga., gyro repair section and its work to ensure that small parts make for large aircraft successes. See story on Page 15.***





## Engineers test capability to find, hit moving targets

EGLIN AIR FORCE BASE, Fla. — Engineers here are testing a new capability that can track and hit a moving target called the affordable moving surface target engagement, or AMSTE, program.

The Defense Advanced Research Projects Agency-funded and Air Force Research Lab-contracted effort has gone through three years of testing, primarily at Eglin, and has completed seven successful missions to date, filling a gap in the military's targeting capability.

The AMSTE program reintegrates current and future Air Force systems to ensure a highly effective, yet low-cost capability.

*— Reported by AAC Public Affairs*

## AFRL Space Vehicles studies solar phenomenon

HANSCOM AIR FORCE BASE, Mass. — Air Force Research Laboratory's solar mass ejection imager, an experiment on solar activity from Earth orbit, has accomplished a major milestone — observing its first Earth-directed "halo" coronal mass ejection in May.

The imager was launched on the Air Force Space test programs Coriolis mission spacecraft in January.

Built as a proof-of-concept imaging experiment and designed specifically to detect, track and forecast the arrival at Earth of coronal mass ejections, the imager has "seen" more than a dozen spaceward-pointing ejections since launch.

With this step of its mission achieved, ejector is helping scientists better understand, and predict with longer lead-times, the harmful solar effects on spacecraft.

*— Reported by AFRL Public Affairs*

## Rolls-Royce engine returns to Arnold for further testing

ARNOLD AIR FORCE BASE, Tenn. — Personnel here recently tested the Rolls-Royce Turbomeca Adour MK951 engine enabling Rolls-Royce to meet critical flight test schedules. The Adour MK951 program achieved flight clearance following 351 hours of testing in the propulsion development test cell T-4.

The MK951, an upgrade of the 6,000-pound thrust class, dual-9-spool, low-bypass Adour turbofan engine, is the powerplant for and an integral part of the Hawk lead-in fighter trainer program. The Adour MK871, known in the U.S. as F405, is the powerplant for the U.S. Navy Boeing T-45A Goshawk trainer aircraft.

*— Reported by AEDC Public Affairs*

## KC-135 travels world to test management system

EDWARDS AIR FORCE BASE, Calif. — The first-ever around-the-world flight of a KC-135 modified with the Global Air Traffic Management, or GATM, system was recently accomplished by a 24-person flight team led by members of the Edwards KC-135 Combined Test Force.

A year and a half in the making, this 10-day flight test was designed to improve the tanker's capability to perform its air-refueling mission within an increasingly congested airspace. The system is the Defense Department's concept for satellite-based communications, navigation, surveillance and air traffic management. The Federal Aviation Administration and the International Civil Aviation Organization, a special agency of the United Nations, established GATM standards in 1997 to maintain control over all airspace around the world.

Eventually, aircraft without GATM will be denied access to certain airspace.

With the final report due out in early fall and the technology continuing to mature, some follow-on testing is expected.

*— Reported by AFFTC Public Affairs*

## Tinker makes wartime communication easier

TINKER AIR FORCE BASE, Okla. — An effort that involved several military and contracting offices delivered a communication system to the E-3 Sentry just in time to support Operation Iraqi Freedom with the addition of a crucial radio wave transmission station.

The high frequency global communication system transmits e-mail communication over radio waves primarily to E-3s, but can also be used on any aircraft with HF capabilities, such as the KC-135.

Officials at the Airborne Warning and Control System SPO, Hanscom AFB, Mass., recently announced plans to provide the HFGCS to its entire fleet after evaluations came back overwhelmingly in favor of the added capabilities.

Implementation of the basic e-mail system began last summer, but was accelerated when the war in Iraq began.

*— Reported by OC-ALC Public Affairs*

## Office starts work phase in developing new wing kit

EGLIN AIR FORCE BASE, Fla. — Eglin's area attack systems program office has begun work to give the wind corrected munitions dispenser, or WCMD, extended range capability and greater accuracy.

A $41 million contract was awarded to Lockheed Martin to design and develop wings for the WCMD and add global positioning system capabilities to aid its inertial guidance system.

The munitions dispenser is a guidance tail kit that can be attached to both the CBU-103, or Sensor Fuzed Weapon, and the CBU-105, or Combined Effects Munition, to give greater accuracy when each is launched from high altitudes.

*— Reported by AAC Public Affairs*

*A portrait of Lyles' AFMC*

# General talks of progress, challenges and future

**By Tech. Sgt. Carl Norman**
AFMC Public Affairs

*Air Force Materiel Command's top leader hangs up his blue uniform soon, ending more than three decades of Air Force service.*

*Effective communication, taking care of people and whole-hearted support to America's warfighters have been career-long themes. The* Leading Edge *had the opportunity to speak with the general as he readies himself and the command for a change in leadership. His thoughts follow:*

## Q) Under your leadership, what do you think have been the most significant accomplishments AFMC has made?

**Gen. Lyles:** Since our number one mission is to support the warfighter, I think one of our major accomplishments is ensuring that everything we do, whether it's in science and technology, research and development, sustainment or test, has the warfighter's requirements and warfighter's needs No. 1 in our minds and focus.

I've tried to instill greater communication between us, our organizations, our people and the MAJCOMs. My old, personal motto of "communicate, communicate, communicate" is very relevant to this area. I think putting processes into place, putting organizational link-ups into place and in some cases putting key people into positions to stimulate that communication and to institutionalize it, has been the number one intangible thing that I've tried to do — to set that as part of our culture in this command.

The other is to ensure that we don't get so focused on the business aspect that we forget that we have a major role in supporting the warfighting mission. Our business initiatives are extremely important, but we have to blend and balance those with getting the mission accomplished for the warfighter. Those sort of culture changes are what I've tried to instill during my period here.

*Gen. Lester Lyles, Air Force Materiel Command commander for the past three years, is scheduled to retire from the Air Force later this summer. (Air Force photo)*

## Q) What do you believe will be the most significant challenges for this command in the next few years?

**Gen. Lyles:** There are two or three I think will be extremely significant. The first is to stay on guard and stay focused on the transformation initiatives we are currently working. It's always tempting, particularly when a new commander or new boss comes along, to think or say, "OK, we did those things because of him or her, now we have a new person so let's go back to doing business as usual and wait until we get the new person's guidance."

I think we have unanimity in the leadership here in the command today that the things we're working on are the right things for the command for the future, and we can't stray from that. We have to give these things an opportunity to succeed even though we know some of them are going to take a long time to actually show payoff. We're agreed that they are the right things to do, so staying on focus is going to be the first challenge, not wavering even when people change at leadership positions.

The second challenge is keeping our customer completely involved in everything we do. Again, it's very important that we communicate what we're doing and why to the customer so they can help us and be part of the solution. It's part of the culture we need to instill in our command.

We also need to ensure expeditionary culture is always part and parcel of what we do within Air Force Materiel Command.

I think the last challenge is not losing faith or being discouraged as we face the obvious things that are going to take place during the next couple years — some continued downsizing, BRAC.

We have to make sure we don't get into the mentality of thinking the rest of the Air Force is picking on this command. Everybody is being treated exactly the same.

The leadership does understand and respect the people and the mission within Air Force Materiel Command. So, making sure that AFMC people feel that they're not second-class citizens will continue to be an extremely important challenge during the next few years.

> ***"By and large, the feedback I've gotten from the major commands, the chief of staff and secretary has been very laudatory of this command."***
>
> ***Gen. Lester Lyles***

## Q) In your opinion, what are the top initiatives, practices and attitudes of AFMC people that define the characteristics of this organization — that determine who AFMC is?

**Gen. Lyles:** Our initiative that started off being called Year of the Family is now being institutionalized to make it a regular part of our personnel process. It looked at investments, modest although they may be, and initiatives to support our family members. That includes people in the command itself — military, civilian and the contractors who work for us. Continuing that Year of the Family initiative, I think, is one process that will help us continuously.

The second is the enterprise approach that we've instilled for ensuring we are integrating interoperable capabilities, integrating air and space capabilities, that we look at everything in terms of integrated operations and no longer stovepiped activities. The enterprise approach was praised recently by the chief of staff and it's going to be the way we do business all the time now.

A third is the sustainment focus we have, particularly the initiatives coming out of DMRT — depot maintenance re-engineering and transformation. This will continue to set us on the right course for years to come. Part of that is our long-range strategic plan for our depots and the investments the corporate Air Force is putting in to the tune of $150 million a year to modernize and ensure that our depots are world class.

Those to me are the top things that we've started and will continue for some time. They will change the nature of how we do business for many years to come.

## Q) What kind of feedback have you gotten about AFMC from other commands?

**Gen. Lyles:** Very positive, in general. There are specific criticisms from time to time, and we've taken those criticisms and critiques and worked to improve, or to ensure the customer understands what impediments exist.

Communication is again a very important part of that particular element. But by and large, the feedback I've gotten from the major commands, the chief of staff and secretary has been very laudatory of this command.

For instance, coming after Operation Iraqi Freedom, we heard from the commander of the air forces, Lt. Gen. "Buzz" Moseley, who is about to become our new Air Force vice chief of staff. His words are extremely complimentary. He said everything worked well, everything was sustained well and that new innovations, new ideas and new systems were introduced very quickly.

## Q) You've been a real people person during your tenure as commander, strongly emphasizing communication. Why do you think that is so important and what benefits does it have to being successful?

**Gen. Lyles:** Everything starts with people. All the quotes like "people are our most important product" and "if you take care of the people, they'll take care of the mission," are exactly true. When we take care of people and let them know we care for them, we understand them and we're listening to them, that we're trying to work their needs while they're trying to

**Portrait *continued on Page 4***

**Portrait** ***continued from Page 3***

work the service's and mission's needs, that makes for the kind of environment that stimulates people and their innovation.

## *Q) Other than communicating and keeping people informed, what do you think it takes to make people successful in life?*

***Gen. Lyles:*** The word communication is a very good one, because I always have to remind people, and myself, that communication is a two-way street. It's more than just keeping people informed; the other part of that equation is listening. It's the old adage that communication is transmit *and* receive. If we're always transmitting, that's the old way of doing things. We've got to receive also, listen to people and respond to their concerns in any way we possibly can.

Sometimes that response is a denial of what people may ask for or think they need, but until you're listening to them and you can understand what their needs are then let them know that you're at least interested in working with them to find a solution, you haven't completed the communication loop. You've got to listen to the people in addition to broadcasting.

The other part of that is good ideas. Everybody knows that good ideas don't always start from the top. They really come in a wide variety of ways — from the side, obliquely, from the bottom — everybody can be a contributor to try to make something better. To me that's very important.

## *Q) What things have made you successful?*

***Gen. Lyles:*** A lot of blessing and a lot of good luck, to be honest. I also have a very supportive family. I dare say that I think I see this in a lot of leaders, but not necessarily in everybody. Both my wife and my kids are not just tolerant of the things I've had to do and the time away from home and all the travel, but understanding. I'd even say they're proud of what their dad and husband has accomplished. To me they are a part of the reason why I've been able to do the things I've been able to do.

Great bosses and mentors are also critical to success. Some people think mentoring is establishing a buddy-buddy relationship with someone. But mentoring can be one word of advice, one word of guidance, one pat on the back at a strategic time. I've had situations in my career where I've had those one-time events from people you probably wouldn't think fit the normal definition of a mentor, but those pieces of advice, guidance and counsel or a pat on the back came at times that really helped set me straight or guide me where I needed to go. So mentors, both one-time events and steady mentors, have been another major reason why I've been very fortunate.

> ***"I wish I would have had the opportunity to shake the hand and thank every one of the command's 80,000 plus members just to let them know what I think of them and how much I appreciate them."***
>
> ***Gen. Lester Lyles***

## *Q) What would you like to tell the command about Gen. Martin?*

***Gen. Lyles:*** I am extremely enthusiastic and excited for the command at what I think the opportunities are going to be with Gen. "Speedy" Martin on board. He has a charismatic personality. He's fun-loving, brilliant and he brings a perspective to the command that I couldn't bring — the operational perspective.

He will look at things with his operational hat on that most of us who have spent most of our careers in this command could not begin to imagine or think of.

I just know there are going to be some exciting things and exciting times with his different perspective looking at the command and shaping it for the future. He's a brilliant leader and people will enjoy working with him. I see only great things for Air Force Materiel Command under his leadership.

## *Q) What words do you have for people, young and old, who may be considering the Air Force as either a military or civilian career?*

***Gen. Lyles:*** The No. 1 message I convey to people, besides educating them on who we are, what we are and what we do, is that this is an exciting organization. We are the Air Force's scientists, the Air Force's engineers; we are the Air Force's innovators when it comes to new technology and capabilities.

I give people examples of the innovation, new technologies and other things we're involved in, but I also emphasize the business nature of what we do, the stewardship of the taxpayers' dollars and our core values in the Air Force — integrity, service and excellence.

The bottom line is that this is a great organization to be a part of, both the Air Force and specifically this command, and we are looking for people to bring into our ranks, both military and civilians.


***Gen. Lester Lyles, commander of Air Force Materiel Command, on a recent visit to the Warner-Robins Air Logistics Center at Robins Air Force Base, Ga. (Photo by Ms. Sue Sapp)***

## *Q) Who would you like for people in the Air Force and around the Defense Department to remember Gen. Lyles as being?*

***Gen. Lyles:*** That's always hard to answer. People have always referred to me as being a "nice guy."

*Nice* can be a four-letter word, by the way, because to some people *nice* implies soft, it implies weakness, it implies that you think with your heart more than with your mind.

I guess if there's one thing I'd like to remembered for, it's the word *nice*, which I find to be complimentary, but nice and fair, coupled with leadership. To me you don't have to have one or the other. I think you can combine niceness with good leadership. I hope that people remember me for a balance of the two.

## *Q) Any final message for the men and women of AFMC?*

***Gen. Lyles:*** I have been honored and blessed to have the opportunity to serve with the men and women of Air Force Materiel Command and to lead them where I could. I can't think of any finer set of individuals, in every aspect, than our civilians, our uniformed members and our contracting community that supports us. It has truly been an honor to have been in this position.

I wish I would have had the opportunity to shake the hand and thank every one of the command's 80,000 plus members just to let them know what I think of them and how much I appreciate them. I will miss this tremendous honor of being part of them.

# *Lyles hosts first SECAF, CSAF & CMSAF Town Hall*

**By Tech. Sgt. Carl Norman**
AFMC Public Affairs

Staying in line with his "communicate, communicate, communicate" motto, Gen. Lester Lyles opened the first-ever Air Force Town Hall Meeting at the U.S. Air Force Museum at Wright-Patterson Air Force Base, Ohio, June 5.

Battle lessons learned, professional military education and air and space expeditionary force issues headlined discussions between Air Force leaders and more than 300 military and civilian people from Wright-Patterson.

Secretary of the Air Force Dr. James Roche; Gen. John Jumper, Air Force chief of staff; and Chief Master Sgt. of the Air Force Gerald Murray took center stage at the Air Force Museum to discuss topics on people's minds.

"The Air Force does well — we develop airmen, lead technology to warfighting in unprecedented ways and integrate amongst ourselves and other services as was recently demonstrated in Iraq," said Secretary Roche during his opening remarks. "Our part of the team, who hugely deserves part of the bragging rights in the conflict in Iraq, was done spectacularly. But we could not have done it without those who went, those who stayed behind to support it and those who delivered those incredible systems."

With the initial introductions made, attention turned to lessons learned in Operation Iraqi Freedom. Secretary Roche said he agrees with Gen. Jumper's notion that the Air Force will never fight alone.

"Our country gains power and credibility because we don't fight alone," he said. "Operation Iraqi Freedom was the best example of joint operations to date."

The secretary lauded close support to ground troops, and aircrews providing that support from higher altitudes and being safe in the process. He also said Air Force people's work with special operators was critical.

"Battles in the various parts of Iraq tested our Air Force in a variety of ways," he said. "We've been able to integrate our forces into a combat air force — Navy, Marine Corps, U.S. Air Force and coalition — that performed superbly."

Secretary Roche also said remotely piloted vehicles like the RQ-1 Predator and Global Hawk were used in ways that were complementary to ground and air forces.

Turning to professional military education, questions arose about rumored changes and their effects. To that the leadership trio said one of the things Air Force leaders have tried to do is take a look at everyone's career to see if PME is coming at the right time and if it contains what is needed to meet the task.

"One of our core competencies is developing airmen, and PME is only one element of that," Chief Murray said. "We're doing a complete review of our force development to ensure that we're preparing our airmen for the future based on the lessons learned that we have today."

The chief said one thing will be to enhance the relationship of officers and noncommissioned officers through combining some of their PME, to evaluate that PME and ensure it is phased at the right time.

"It's all about teaching the right thing," Gen. Jumper said. "Things that are being taught at universities are there because there are people who know how to teach that stuff. It's a different question whether what's being taught is relevant to the world we live in."

From PME, the focus changed to air and space expeditionary force issues and what people think needs to happen to fix a perceived beaten-down system. Gen. Jumper disagreed.

"I think that what we saw was an AEF system working exactly as we intended for it to do," he said. "We have AEF pairs deployed around the world all the time and when a conflict blows up beyond what that pair can handle, you lean forward because you know who's the next to go because that's how they're lined up in the rotation cycle. We were able to lean forward and touch those capabilities like we've never done before and put them into combat."

Now that the conflict is finished, Gen. Jumper has set his sights on getting deployed people back home and putting the AEF system back on schedule.

Secretary Roche addressed questions about his pending appointment as secretary of the Army. He said he would do what he is told, as any good airman would. But in ending the meeting he said, "I'll do my best but it's hard to imagine having felt more welcome or as warmly about a group of people as I do the U.S. Air Force."

***Gen. Lester Lyles introduces the panel at the first Air Force Town Hall Meeting, held at the USAF Museum, Wright-Patterson AFB, Ohio, June 5. Left to right: Master Sgt. Chris Beckwith, moderator; Secretary of the Air Force Dr. James Roche; Gen. John Jumper, Air Force chief of staff and Chief Master Sgt. of the Air Force Gerald Murray. (Photo by Tech. Sgt. Carl Norman)***



*The Lyles years*

# Thinking outside the box

**By Ms. Libby Van Hook**
Executive Editor

A vision has guided Gen. Lester Lyles since he took over the Air Force Materiel Command April 20, 2000. "AFMC is about providing the capability to support our national security objectives and allow our people to fly and fight effectively," he said. "My vision is to make sure that it not only stays in that posture, but grows."

He has remained true to that vision throughout his time here.

Goals he set for the command included supporting the warfighter; emphasizing strong business management and cost control; taking the command to the next level in acquisition excellence; playing a greater role in science and technology; and forging new and better partnerships with the Defense Department and other federal agencies. And he felt the most significant challenge facing AFMC was that of resources — manpower and dollars.

In the summer of 2000, Gen. Lyles began addressing the above issues by repositioning AFMC in five key focus areas: studies and analyses, modeling and simulation, aging systems, leveraging commercial technology and responsiveness to customer needs.

At the same time, he faced the challenge of replenishing and reshaping an aging workforce in which 50 percent would be eligible to retire in 2008, and in managing the right balance of military, civilian and contracted workforce with the right combination of job knowledge and mix of skills.

"It's a struggle, but we've just started," said Gen. Lyles in May 2001. "The good thing is we've got the right people working on it, and we have help from Congress and a belief that it's a problem that needs to be addressed. I think we've got the right focus to make it a success."

His most important tool in making this happen was creating an atmosphere of open communication. He said he expected AFMC people to keep him informed.

"The three-word motto I've used in every one of my commands is 'communicate, communicate, communicate.'"

## Fighting a battle

The general said he feels his guiding principle of communication will go a long way in this workforce shaping battle.

"The bottom line," he said, "is that supervisors and leaders must talk to their people. We're in the battle for recruiting and workforce shaping, and we're fighting hard. I feel positive we'll eventually be successful, but it's not going to be a quick victory."

In May 2001, Air Force leadership charged AFMC with the advocacy and sponsorship of Air Force science and technology programs. "AFMC is now responsible for pulling together the budget for all science and technology efforts," said Gen. Lyles.

Around the same time, in conjunction with Dr. Marvin Sambur, assistant secretary of the Air Force for acquisition, and Lt. Gen. Michael Zettler, deputy chief of staff for installations and logistics, Gen. Lyles established an integrated product team to define enterprise management and to determine how it would change day-to-day business. Under what is now called enterprise leadership, a single person is in charge of a system of systems. This leads to better development decisions and makes it easier for customers to get solutions from a single point of contact.

## Downsizing the command

During July 2001, Gen. Lyles bid a bittersweet farewell to two of AFMC's most respected members when Kelly Air Force Base,

**Lyles *continued on Page 6***

***Gen. Lester Lyles, commander of Air Force Materiel Command. (Photo by Ms. Libby Van Hook)***

**Lyles *continued from Page 5***

AFB, Calif., closed its doors forever, both in accordance with BRAC 1995.

In addition, it was announced that the Space and Missile Center at Los Angeles AFB, Calif., would be transferred to the Air Force Space Command in October 2001.

Around the same time, "City-Base" plans were under way to turn over most of Brooks AFB, Texas, to the city of San Antonio in July 2002 in a move expected to improve mission effectiveness and reduce infrastructure support.

Also accelerating the pace of change-driven uncertainty were results of the latest Quadrennial Defense Review, and Defense Department leadership's increasingly frequent reference to a new and vaguely defined concept called "transformation." What did it mean? When would it begin? And what would it entail for AFMC?

Under Defense Department guidelines, Gen. Lyles spearheaded the transformation movement within AFMC. "Transformation is a way of thinking and reacting in new ways," he said. "It is a means to inject radical improvements in the way we do business. It is about freeing talented people to use innovation and good ideas every day in working their programs."

## Achieving milestones

The 12-month period beginning in February 2001 was a banner year for new systems. The Collier Trophy-winning Global Hawk reconnaissance vehicle entered its engineering, manufacturing and development phase. Lockheed Martin's X-35 won the Joint Strike Fighter competition.

The Joint Direct Attack Munition and the T-6 primary trainer entered full production, and the F-22 air superiority fighter and the Joint Air-to-Surface Standoff Missile were approved for low-rate initial production.

In the spring of 2002, Defense Department leadership introduced a capabilities-based strategy called evolutionary acquisition, along with its component process called spiral development.

In May, Gen. Lyles chartered a transformation team staffed with AFMC's best and brightest and directed them to "think out of the box" to develop ideas for improving the way the command does business. Later he activated a Test and Evaluation Transformation Office.

Another transformational-driven initiative was to eliminate unnecessary requirements and activities under his divestiture movement. More than 300 divestiture candidates have been submitted, resulting in eliminating, improving or resolving misunderstandings for each candidate and eliminating almost 60,000 hours of nonessential work.

## Meeting the challenge

All those achievements had to be kept in perspective with the tragic events of Sept. 11, 2001, and subsequent actions by the United States and its coalition partners in Operations Enduring Freedom and Noble Eagle.

As the world watched the U.S. military shape history, Gen. Lyles said AFMC's people allowed the warfighters to set the pace needed to be successful. Command professionals did that because they were ready, and the general said he takes great pride in that accomplishment.

"AFMC people are developing, acquiring and sustaining the most advanced air and space technologies and systems to give our warfighters the capabilities they need to accomplish their missions and return home safely," he said.

The command's air logistics centers postured themselves for speed and efficiency, surging to rebuild and repair engines, perform maintenance on aircraft and modernize aircraft capabilities.

"We have a rapid acquisition team that specializes in procuring quickly and what warfighters tell us they need in the field now, but we are all moving more rapidly than we did prior to Sept. 11," he said.

Under his direction, Air Force Research Laboratory and AFMC product centers focused on identifying technologies that would quickly develop into programs to be accelerated.

In addition to providing technology, AFMC people deployed to support contingency operations. More than 20,000 military members and civilians are assigned against 7,000 unit type codes making them deployable for any contingency, according to Mr. Mike Self, AFMC battle staff deputy director.

"We put bombs on target in Operation Iraqi Freedom with greater precision and less risk to our people than ever before, and AFMC people made that possible," said Lt. Gen. Michael Moseley, 9th Air Force and U.S. Central Command Air Forces commander. "AFMC is wholeheartedly backing their 'warfighter support' vision."

## Taking care of people

At the same time, taking care of people continued to be a top priority. He designated year 2001 as the Year of the Family, known as YOFAM, and then continued it into 2002. He set aside funds for various projects and programs throughout the command for upgrades to recreational facilities, educational centers, parenting seminars and housing renovations, to name just a few of the YOFAM initiatives.

In addition, he declared 2002 as the Year of the Engineer and Scientist to remind everyone that scientists and engineers take concepts and ideas born in laboratories and turn them into active and working weapons systems.

***Ms. Carrie Mitchell, a pneudraulics mechanic at Tinker AFB, Okla., discusses her work on an F-16 regulator with Gen. Lester Lyles, AFMC commander, during a recent tour of the air logistics center. Gen. Lyles, whose three-word motto throughout his career was "communicate, communicate, communicate," made a point of communicating with the command's members wherever his travels took him. (Air Force photo by Ms. Margo Wright)***

## Retaining his focus

Throughout his time at AFMC, Gen. Lyles kept his focus on the vision and goals he originally set for himself and the command. One of those goals was taking the command to the next level in acquisition excellence.

When Secretary of the Air Force James Roche said it takes too long to buy and field Air Force weapon systems, "he reached to the very heart of the issue that agile acquisition is meant to address," Gen. Lyles said. His answer was to establish, in partnership with Dr. Sambur, an initiative to invent a truly agile acquisition and sustainment system.

"Agile acquisition and sustainment is exactly what its name implies: a leaner, more effective approach to designing, building, testing, fielding and supporting the weapon systems that warfighters need to fight and defeat any foe on any front," Gen. Lyles said.

"Using spiral development, innovation and keeping pace with the accelerating technology cycle, the acquisition team is developing several exciting initiatives to improve our scientific and engineering processes within AFMC and across the Air Force," he said.

Working with the developmental and operational test communities, he and Dr. Sambur pursued an integrated test and verification process and seamless verification, allowing AFMC to accelerate capability to the warfighter.

In June 2002, Gen. Lyles said the command's mission areas most ripe for transformation were supply management and depot maintenance.

"There have been many efforts to improve these areas over the years but none having the strategic, integrated approach we now have in place through our transformation efforts," he said.

These efforts include the Chief of Staff's Logistics Review, depot maintenance reengineering and transformation, the spares campaign and the logistics readiness cell.

## Leaving with pride

As Gen. Lyles departs AFMC, he can look back on his three years here and the many accomplishments he helped advance with P.R.I.D.E., an acronym for the AFMC vision statement he implemented — delivering **P**roactive **R**apid **I**ntegrated **D**ominant **E**ffects to the warfighter.

"If you want to measure the dedication, patriotism and industrial might that AFMC people bring to this nation, simply turn on your TV and watch the news," he said. "Every sortie launched, every target confirmed, every bomb dropped and every radio contact completed in support of the war on terrorism happens because AFMC people continue to anticipate and meet the needs of those who fight America's wars. We, as part of the Air Force team, have clearly shown that we can make a difference."

*For the third straight year*

# Lyles listed in *Ebony*'s Top 100

For the third straight year, the Air Force Materiel Command's top leader has been listed as one of *Ebony* magazine's 100 Plus Most Influential Black Americans.

Gen. Lester Lyles is among the honorees *Ebony* magazine editors and national opinion leaders selected as individuals who transcend their position and command national influence. According to magazine officials, individuals who positively affect the lives, thinking and actions of a large segment of the African-American population are sought for inclusion in the Top 100.

Gen. Lyles, a Washington, D.C., native and 1968 graduate of Howard University, took command of AFMC in April 2000 and has been named to the list each year since.

Entering the Air Force in 1968 as a distinguished graduate of the Air Force ROTC program, Gen. Lyles has served in various assignments including the Air Force vice chief of staff and as director of the Ballistic Missile Defense Organization. Gen. Lyles commands a workforce of more than 84,000 people assigned to AFMC's 10 locations across the United States. He also manages a $44 billion annual budget.

Among his various military and civilian awards, Gen. Lyles won the 2002 Black Engineer of the Year Award and in 2003 was presented with the Black Engineer of the Year Lifetime Achievement Award.

The complete Top 100 listing is available in the May 2003 issue of *Ebony* magazine.

*— Tech. Sgt. Carl Norman, AFMC Public Affairs*

# *The many faces of Gen. Lester Lyles...*


*Photo Montage created by Ms. Libby Van Hook, Executive Editor*

## Lyles: AFIT's future to see rise in student enrollment

WRIGHT-PATTERSON AIR FORCE BASE, Ohio — Gen. Lester Lyles, commander of Air Force Materiel Command, told the Dayton Area Chamber of Commerce June 24 that the Air Force Institute of Technology's enrollment will reach more than 2,500 students in six years.

The graduate school plans to expand admission of enlisted and civilian personnel to its student body.

Beginning in August 2002, AFIT included eight senior noncommissioned Air Force officers and six Marine Corps sergeants to its graduating class of 2004.

The inclusion of enlisted men and women was initiated by Dr. James Roche, secretary of the Air Force, in an effort to widen the scope of the Air Force and the Defense Department.

*— Reported by AFIT Public Affairs*

## Online ordering system adds bulk buy capability

MAXWELL AIR FORCE BASE, GUNTER ANNEX, Ala. — Experts at the Standard Systems Group continue to re-engineer the Air Force's information technology purchasing Web site, to increase its service-wide usage and improve system procurement and purchasing processes.

AFWAY, an online ordering system fielded last year, supports purchasing and tracking information technology products via an interface to the Air Force IT inventory tracking system.

A new bulk buy enhancement was recently implemented, giving users the capability to use AFWAY for large quantity purchases to ensure the best price from vendors. Once the vendor sends back a quote, the selection is made.

*— Reported by SSG Public Affairs*

## WPAFB reservists help shark-attack victim

WRIGHT-PATTERSON AIR FORCE BASE, Ohio — Reservists from the 445th Aeromedical Evacuation Squadron here aided a shark-attack victim at Johnston Atoll June 22. Lt. Col. Nancy Byrne, a flight nurse, along with Master Sgts. Jeffery Streit and Brian Marquardt, aeromedical technicians, were performing a week of medical-evacuation duty at Hickam AFB, Hawaii, when they received a call to provide support.

The man was snorkeling 50 yards from the atoll, more than 700 miles southwest of Honolulu, when a shark attacked him, resulting in the loss of his left leg.

After a two-and-one-half-hour flight aboard a Coast Guard aircraft, the reservists and two active-duty medics from Hickam arrived on the island to transport him to Hawaii for treatment.

Johnston Atoll is a military installation on a two-mile-long island of coral. Most of the 327 people on the island are members of the U.S. military. The victim was one of a few civilians there.

*— Reported by AFRC News Service*

***DAYTON, Ohio — A Wright 'B' Flyer ground crew member helps Gen. John Jumper, Air Force chief of staff, strap into a replica of the Wright brothers' first production airplane at Dayton's Wright Brothers Airport June 21. Pilot John Warlick, dressed in an Army Air Corps uniform, sits alongside ready for the ride. Gen. Jumper was here to speak to the national convention of the Order of the Daedalians. His visit to the airport is a part of the Centennial of Flight festivities. (Air Force photo by Mr. Larry Davenport)***

## Standard Systems Group picked to head IT Council

MAXWELL AIR FORCE BASE, GUNTER ANNEX, Ala. — The Air Force Chief Information Officer and the Air Force's Deputy Assistant Secretary for Contracting have selected the Standard Systems Group to head up the new Air Force Information Technology Commodity Council.

The council includes representatives from all Air Force major commands and the Air Staff, and will develop strategies for buying and managing information technology products.

The council is expected to operate on a daily basis using collaboration tools through the Air Force Portal and virtual meetings, focusing first on desktop and laptop computers and then IT peripherals.

*— Reported by AFMC Public Affairs*

## Nobel Prize winner speaks to AFRL Space Scholars

KIRTLAND AIR FORCE BASE, N.M. — The Air Force Research Laboratory's Space Vehicles Directorate recently hosted a Nobel Prize winner to speak to interns with AFRL's Space Scholars program. Space Scholars spend their summer researching special topics related to the Air Force mission in space.

Rice University Professor Richard Smalley, winner of the 1996 Nobel Prize in chemistry, met with students and staff to discuss the potential use of nano-carbon tubes in space structures and sensors. He also presented his views on energy policy as it related to the Air Force space mission.

*— Reported by AFRL Public Affairs*





# Robins gyro center keeps details in line for sake of mission

## *Section's work on small parts ensures large craft have smooth performances*

Greek cuisine readily comes to mind at the mention of the word *gyro*. But at Robins Air Force Base, Ga., *gyro* evokes an entirely different image — one of long, blue lab coats, magnifiers and spinning automatic test equipment.

The gyro is a navigational tool that gives direction and indication to the aircraft, said Mr. Bob Barringer, gyro shop first line supervisor.

"The gyro uses the roll, pitch and yaw of the aircraft to tell which way it is going," he said.

The distinct buzz of machinery can be heard over the low tunes of small transistor radios and mini-boomboxes. And although a few other small trinkets from home lie neatly at the employees' work stations, whirling machines and other high-tech equipment quickly let you know that you've entered the gyro repair section.

"Supporting the warfighter is our main objective here," said Mr. Wade Hunnicutt, gyro repair section chief.

### Small items, large aircraft

Mr. Hunnicutt said that, without gyros repaired by his section, aircraft wouldn't fly. And without planes in the air, it would be difficult to fight a war.

According to Mr. Barringer, each gyro is set according to its engineer's standard, and when the work is complete, the gyro is tested on equipment that simulates the motion of an aircraft.

"When the gyro is complete, the shop ships the items to supply and supply installs the gyros when needed," he said.

Ranging from a few inches to a few feet long, gyros are delicate and must be handled with great care.

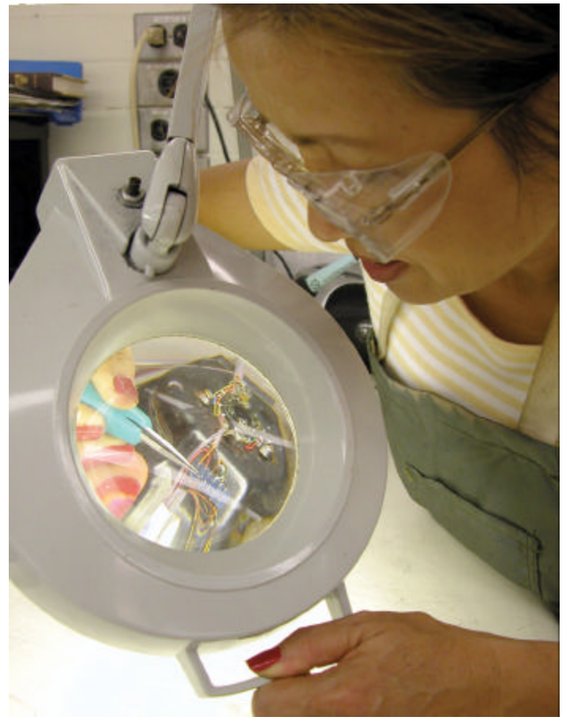
"They are really small items to control such large aircraft," said Mr. Hunnicutt. "We have a lot of automatic test equipment that simulates the airplane before the item is ever sent out, so when it is put on the plane, it's a good item. Our workers are very quality conscious, and our customers are satisfied."

### Visit to clean room

According to Mr. Hunnicutt, some of the gyros are so delicate they must be tested in what is known as the "clean room." In this room a sterile environment is used to ensure their quality. No more than 100,000 dust particles per square foot are allowed. A mask, boots and body suit must be worn to enter the room.

Gyro repair is precise work, and a slip up could cost a pilot or crew member's life.

"You must pay attention to what you are doing," said Mr. J.C. Harris, a gyro technician for four years. "I always keep in mind that the aircraft is going the wrong way if I don't do something right."



***Ms. Sue Nottis works on a vertical gyro at Robins AFB, Ga. The gyro repair section produces gyros for the F-15 Eagle, C-5 Galaxy, C-130 Hercules, C-141 Starlifter, KC-135 Stratotanker and the B-1 Lancer. (Air Force photo by Ms. Sue Sapp)***

There are more than 100 different gyros in the gyro shop. Since July 2002, nearly 1,000 surge items have been produced, causing a lot of overtime. Mr. Hunnicutt said they have worked seven-day, 12-hour shifts to support the war efforts.

In Mr. Barringer's shop alone, 411 surges have occurred along with the regular demand.

The gyro repair section employs 120 technicians and produces gyros for the F-15, C-5, C-130, C-141, KC-135 and the B-1.

### 'Supporting our freedom'

Maj. Gerry Hinderberger, a 19th Air Refueling Group pilot with the 99th Air Refueling Squadron, said the mission couldn't be accomplished without the support of the gyro shop and the rest of the center.

"The autopilot is a gyro," Maj. Hinderberger said. "If the autopilot isn't functional, we're limited to the number of hours we can operate. Without the autopilot, we have to manually fly the aircraft. That takes one person out of the thinking process, and ultimately affects the mission."

Mr. Hunnicutt said he is proud of the section and its success since the reorganization. The section was previously a part of the technology and industrial support directorate but is now part of MAI, or avionics.

"To us, supporting the warfighter is supporting our freedom, and that is what we do," he said.

*— Ms. Lanorris Askew, WR-ALC Public Affairs*

# Hill modifications improving life of F-16s

America's premier multirole fighter is slipping into some tougher armor that promises to extend the aircraft's life by about eight years at Hill Air Force Base, Utah.

F-16 Service Life Improvement Program modifications, better known as SLIP, are "all about extending these aircraft — putting them back up to get more life out of them," said Mr. Gary Grivet, F-16 branch module chief.

## One fix leads to another

The SLIP program began about five years ago to repair cracks in high stress, fracture-critical and potential crack areas, he said. These areas formed over time as stress on the airframe was transferred to other areas after the Falcon-Up, an earlier structural modification program, was started.

During Falcon-Up, technicians replaced some of the bulkheads, reamed the fuel shelf boltholes and replaced some of the Falcon's other segments, he said. This caused other, unenhanced areas to start cracking as time passed, and led Hill officials to start the SLIP program.

"SLIP Mod is the modification of the upper fuselage area, which beefs up the exterior of the aircraft where cracks may have occured from years of wear and tear," said Mr. Grivet.

The modification replaces old bulkheads, the engine mount, fuel tank panels and fasteners, and other structural components. Mr. Grivet said these repairs and replacements take care of the cracking problems on the aircraft's aluminum alloy panels.

From the time the aircraft arrives at Hill, he said it takes experts only 94 days to modify each aircraft, depending on what other modifications need to be done. F-16s here for the SLIP modification are on the production line for 52 to 56 days.

"What upgrades we do depends on the work order and the total number of flight hours on the aircraft," said Mr. Grivet.

When the aircraft comes in, he said its fuel and engine have already been removed. It's then jacked up and stripped.

## A thorough inspection process

After that, all the panels are taken off, and the new composite panels are installed. A maintainer conducting a non-destructive inspection checks all components, making sure there are no cracks, even too small for the naked eye to see.

After structural mechanics accomplish their work, F-16 branch technicians rebuild everything, putting it back the way it was when the plane arrived. For SLIP, as for every modification, there's a kit to provide everything the F-16 branch needs.

"We reassemble it and then run it back through the fuel facility, where aircraft parts are checked for proper operation and any leaks," Mr. Grivet said. "From there the Falcons are taken to flight test where the engines are put back in."

*— 1st Lt. Garrett Grochowski, OO-ALC Public Affairs*

***OVER COLORADO — The F-16 Fighting Falcon, America's premier multirole fighter, is slipping into some tougher armor that promises to extend the aircraft's life by about eight years. The work is being done at Hill AFB, Utah. (U.S. Air Force photo by Staff Sgt. Greg L. Davis)***




# B-1B test team drops first JSOW from Lancer

A B-1B test crew from the Global Power Bomber Combined Test Force at Edwards Air Force Base, Calif., achieved a flight test first June 17, when the crew dropped the Joint Standoff Weapon, or JSOW, for the first time from the long-range bomber.

## Ongoing test

The four-person flight team from Edwards' 419th Flight Test Squadron released two JSOWs as part of ongoing separation testing on the Lancer. The JSOW is being developed by Raytheon for the Air Force and Navy. It is intended to provide a low cost, highly lethal glide weapon with a standoff capability.

According to Maj. Brian Tom, one of the weapon system officers onboard during the JSOW mission, the test force is also evaluating the vibration and acoustic environment of the B-1B's bomb bays with the new weapons and with various weapons bay door configurations. Maj. William Libby served as the aircraft commander for the Lancer's premier JSOW mission along with pilot Maj. Mike Contratto and weapon system officer Maj. Jeffery Wharton. The team is also performing similar tests using the Joint Air-to-Surface Standoff Missile, or JASSM.

The JSOW and JASSM weapons testing is also relying on the B-1B's new Block E1 avionics software for the first part of the test program. The bomber CTF is evaluating the Block E1 software as part of a separate, ongoing test program.

## Prior testing advances JSOW

Previous testing on this new software allowed the team to successfully use it during the recent JSOW drop, added Maj. Tom, who serves as the project weapon system officer for both the E1 software test program and the JASSM and JSOW integration tests.

New JASSM and JSOW integration software testing will begin in August, according to program officials.

The success of the JSOW drop can be attributed to detailed planning on the part of all those involved, from the test engineers to B-1B lead contractor Boeing, said Maj. Tom. Maintenance support for the two B-1B test aircraft being used in the weapons integration and software testing has been "phenomenal," he added.

"Maintenance is a huge part of our success," he said. "Our maintainers have kept us on track, and we haven't lost a single sortie since we started testing."

## A variety of uses

Ultimately it is the operators in the field who will benefit from the new standoff weapons capability, said Maj. Tom. The JSOW is slated to be used against a variety of land and sea targets and will operate from ranges outside enemy point defenses.

The JSOW family of air-to-surface glide weapons provides standoff capabilities from 12 nautical miles when launched at low altitudes and up to 63 nautical miles at high-altitude launch, according to the JSOW Program Office.

The bomber test force is continuing weapons integration testing on the B-1B with its second JASSM separation later this summer.

*— Ms. Leigh Anne Bierstine, AFFTC*

# Powering transformation:

## *Path to tactical directed energy weapons now reality thanks to new power technologies*

**By Mr. Michael Kelly**
AFRL Propulsion Directorate

***Above: The high-temperature superconductor wire was developed at the Air Force Research Laboratory's Propulsion Directorate at Wright-Patterson AFB, Ohio. The conductor is a critical electrical power component developed for defense applications and recently received approval for full development under Title III of the Defense Production Act. Inset: Mr. John Murphy, chief technician in the directorate's superconductivity laboratory, uses the rolling mill to properly deform and texture a length of HTS coated conductor.***

Through the ages, technological advancements have changed the nature of warfare. Today, the march continues as the American military structure transforms to meet the challenges of the 21st century.

Powering that transformation are workers at the Air Force Research Laboratory's Propulsion Directorate at Wright- Patterson Air Force Base, Ohio.

Their work in advanced electrical power and thermal management technologies is enabling concepts like high-power laser weapons on fighter aircraft, electronics-attacking microwaves and non-lethal technology that uses electromagnetic energy to stop an advancing adversary.

### Looking to the future

According to Dr. Rick Fingers, deputy for technology in the directorate's power division, recent exciting advancements have been made in several areas addressing the challenges of supporting these futuristic weapons.

The directorate's work is an outgrowth of the "More Electric Aircraft" program, which began as a thrust to develop electrical power technologies that replace aircraft hydraulic systems.

"One of the future's significant transformational technologies is adding directed energy weapons to the war fighter's arsenal," Dr. Fingers said.

"The whole fervor for directed energy has blossomed as a result of power technologies and we're excited about our work in the directorate cutting that path into the future," he said.

Directorate scientists and engineers have been on the ground floor of this promising enterprise with a keen eye on where to focus their efforts. Developing a new class of higher-operating-temperature electrical components such as switches and capacitors along with super-conductivity and thermal-management technologies was high on their list. All have shown tremendous progress, he said.

### Significant progress

Researchers involved in the developmental testing of diamond-like carbon capacitors say their progress is the most significant in decades.

"Our team of scientists and engineers has enabled the production of capacitors with improved energy density and temperature capabilities that are more than two times better than today's state-of-the-art capacitors," said Ms. Sandra Fries-Carr, manager for the DLC capacitor program in the electrical technology and plasma physics branch.

Capacitors, which store an electrical charge, are critical components in nearly every military and commercial high-performance system, she said.

The improvements are crucial for airborne applications of directed-energy weapons because they offer considerable savings in system weight, improved electrical performance and can withstand the types of high temperatures generated by the power systems feeding the electrically driven weapons.

Another key enabling technology needed for the development of Air Force directed-energy weapons is a high-temperature superconducting wire dubbed YBCO, for its molecular configuration of yttrium, barium and copper oxide.

### Next generation

The YBCO conductor is the next-generation high-temperature superconducting wire necessary for the development of directed-energy weapons, said Dr. Paul Barnes, a senior physicist and the superconductivity team leader.

"The need for compact, lightweight, high-power generators and magnets is critical to quite a few defense applications," said Dr. Barnes. "A newer superconductor was needed that could operate at higher cryogenic temperatures to reduce the cooling requirement."

According to Dr. Barnes, by using YBCO conductor technology, high-speed and high-temperature superconducting generators can produce megawatts of electrical power while weighing up to 80 percent less than traditional iron-core generators.

These size and weight reductions enable high-power-dependent weapon systems on air or mobile platforms, he said, opening the door to airborne applications such as directed-energy weapons.

### Powering weapons

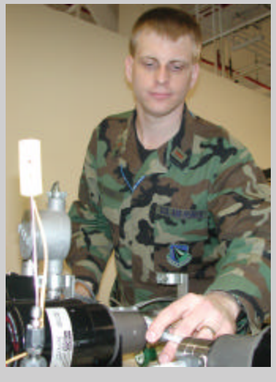
Electrical DEWs, which include the solid-state, high-energy laser and most high-power microwave sources, emit radiation energized by onboard electrical power.

"In fact, we plan to generate sufficient electrical power for the airborne DEW design concept by coupling a rotating electrical generator to the aircraft turbine engine," said Mr. Scott Rubertus, deputy chief of the power division.

The new power generators would allow the electrical DEW to operate as long as jet fuel is available to turn the turbine engines, providing a "deep ammunition magazine," he explained. Aerial refueling would eliminate the requirement to land and rearm the aircraft in a conventional sense.

***"One of the future's significant transformational technologies is adding directed-energy weapons to the warfighter's arsenal."***

**Dr. Rick Fingers**



***Top: Sandra Fries-Carr and Hiro Kosai analyze a diamond-like carbon film deposited on foil. Right: 2nd Lt. Ryan Claycamp inspects the plumbing on a spray-cooling test article that could help directorate researchers to provide life-saving cooling to satellites and other space vehicles.***

In contrast, the airborne laser platform uses a chemically fueled laser to shoot down ballistic missiles while they still are over an enemy's own territory. When chemical reactants are expended, the aircraft must return to base for re-loading.

While much more work remains to be done, Dr. Fingers pointed out the amount of power needed for these DEW systems has already been identified and categorized by the propulsion directorate for the next step in development. The next challenge to overcome is increasing their efficiency, according to Dr. Fingers.

"Some high power DEW components are still only about 10 to 20 percent efficient. This means a substantial amount of thermal energy, or heat, needs to be effectively managed within the constraints of an airborne platform," Dr. Fingers explained.

To combat this problem, directorate scientists and engineers have developed and tested spray-cooling technologies using liquids such as water or ammonia to remove high heat fluxes from the hot surfaces of aircraft electronic components

Led by Dr. Kirk Yerkes, an expert in fluid mechanics engineering, the challenge is getting rid of heat generated by more and more powerful semiconductors and electronic devices in military aircraft.

The concept is similar to humans sweating, or evaporating moisture to cool the body.

However, unlike humans, electronic packages don't sweat and need a little help to cool down, which is where the spray comes in, Dr. Yerkes explained.

### Staying cool

Coolants are sprayed onto electronic packages and circuit boards, where they heat up by conduction and evaporate, providing life-saving cooling.

Air Force officials are so confident of the concept of these weapons that lab officials at the Directed Energy Directorate, Kirtland AFB, N.M., are funding and developing a high-energy laser fighter simulator.

One simulator model is capable of air-to-air engagements while the other simulates air-to-ground engagements, according to Mr. Rudy Martinez, a directed energy strategic planner.

F-16 Fighting Falcon pilots from the New Mexico Air National Guard's 150th Fighter Wing have already had a chance to hone their laser firing skills in the simulator.

According to Mr. Martinez, the ultimate goal is to have pilots use the simulator to participate in war games and determine the utility of using a high-energy laser against conventional weapons.

# Team Robins Plus flexes its collective muscle

***Exercise, excercise, exercise. Two passengers in a truck with a sprayer tried to infiltrate the base. When they were caught at the gate, they activated the sprayer, which was filled with a deadly gas, and crashed. At the same time, a driver leaving the base was incapacitated by the gas, crashed and was killed on the highway. On- and off-base emergency response units responded to the scene.***

Since terrorism doesn't wait for a sunny day, neither did Team Robins Plus when it teamed with local and federal emergency agencies for a five-hour weapons of mass destruction exercise at Robins Air Force Base, Ga., recently.

Col. William Saunders, center inspector general, called the agencies' coordinated efforts "warrior day."

"In this exercise scenario, the base has been attacked and our first responders are defending the base and protecting lives while senior leadership provides strategic direction, coordination, command and control," he said. "Robins is concerned about its people — that's the bottom line."

The scenario called on Team Robins to respond to a chemical agent attack. The exercise included Georgia, Houston County and Federal Emergency Management Agencies, the FBI, Robins' Office of Special Investigation and local and base law enforcement and emergency responders.

Col. Saunders said this exercise was different from those in the past in that it was the very first time the base has executed a weapons of mass destruction drill.

"We've taken the training from the classroom discussion phase, and we have put it to practice," he said.

Ms. Vickie Thompson, field coordinator for GEMA area 4 , said GEMA's role in a scenario like the one played out here would be to support local government agencies.

"The local EMA director in Houston County would contact us, and we would support them in whatever mission was assigned to them," she said. "We are here to support both entities in whatever way we can."

Mr. Kevin Bartow of the Robins Fire Department said the value of this training is that people are getting together on how the center interacts with different agencies and all the people who participate when an emergency arises.

According to Mr. Bartow, Robins is part of the Joint Service Installation Pilot Program, which is developing many concepts of operation that will be used across the Air Force to help bases defend and recover after weapons of mass destruction incidents. The program provides lessons learned from real-world events and exercises to develop contingency plans for bases across the Air Force.

Airman 1st Class Sean Barnette, fire department staging crew, said he's convinced that real-world situations would have positive results. "I feel confident in myself and in my team that with our training we would have saved lives," he said. "We all came together, we all knew our roles and we were very successful."

*— Ms. Lanorris Askew, WR-ALC Public Affairs*

***Left: A security forces member at Robins AFB, Ga., dons a gas mask during a mass destruction exercise held there recently. (Photo by Ms. Sue Sapp)***


***Top: Firemen wear decontamination suits to assess the situation and figure out what chemical agent was released. Bottom left: Members of the fire department hose down victims. Bottom right: Medical personnel attend to decontaminated victims as Col. Karl Lee, 78th Medical Group, evaluates their procedures. (Photos by Ms. Sue Sapp)***

*Crews from the Knud Nielsen Company gather turkey oak leaves on a test range at Eglin AFB, Fla. The company sells the leaves in craft stores. In addition to paying Eglin for the leaves, it benefits the environmental program and frees Eglin workers for other work. (Courtesy photo)*

# Sending Eglin around the world

For more than 35 years people around the country have had the chance to take a piece of Eglin Air Force Base, Fla., home with them.

That's because each year the Knud Nielsen Company dries, dyes and sells more than 400,000 pounds of turkey oak leaves gathered from Eglin's test ranges.

The leaves, mostly in demand for fall home decorations, can be found wherever dried flowers are sold. The company produces green, red, saffron, brown, orange and autumn varieties.

"Each year the company collects around 600,000 pounds of cuttings from our ranges to get their desired product," said Mr. Scott Hassell, a Jackson Guard supervisory forester.

Environmental managers said the arrangement works out well for them.

"Crews from Knud Nielsen carefully snip branches from each tree, a kind of pruning to help sustain the natural environment," Mr. Hassell said. "By having them come out here, they put to good use what would otherwise be wasted in range maintenance."

"The best part about the deal is that they do all the work," said Mr. Mike Spaits, Eglin environmental spokesman.

The company pays a small per-pound fee to collect the materials, while Jackson Guard can focus their work on other needs. Money received from the company for the project supports the forest management program by paying for everything from employee salaries to long-leaf pine seedlings used in forest restoration.

"If we have excess funds after we pay all our expenses, then 40 percent goes to the school system, divided among the three counties based on land area occupied by Eglin," said Mr. Hassell. "The remaining excess funds go to an Air Force reserve account to support needy natural resources programs at other bases."

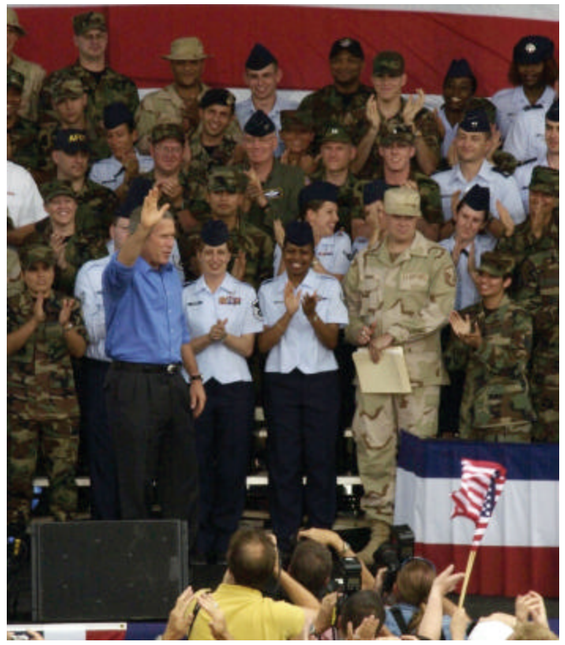
The company also collects other items, like deer moss, from area test ranges for production. However, the amount of turkey oak gathered gives Eglin another way to contribute to the job market.

"A team of about 18 people, ranging from those that gather the raw materials to those that package them, are sustained yearly from this product," Mr. Hassell said. "The leaves amount to about five percent of the company's gross income."

"When you see turkey oak leaves in a store, know that they came from Eglin," he said. "I even saw them in a catalog recently in a posed photograph that showed fall leaves surrounding a man in his yard. Guess where every one of those leaves came from?"

*— Ms. Doris Johnson, AAC Public Affairs*





***President George W. Bush greets approximately 20,000 people at Wright-Patterson AFB, Ohio, July 4. During his address, President Bush said, "Terrorists are on the run." (Photo by Capt. Danielle Burrows)***

# *President rallies crowd at Wright-Patterson in July Fourth address*

People at Wright-Patterson Air Force Base, Ohio, have been crucial to victories in Afghanistan and Iraq, according to President George W. Bush during a July 4 address. And their work "has given America the finest Air Force in history," he said.

Kicking off Independence Day activities, President Bush addressed nearly 20,000 people who weathered high temperatures in a field adjacent to the United States Air Force Museum.

"People from every branch of the service, and thousands of Guard and Reserve members called to active duty, have carried out their missions with all the skill and knowledge expected of them," he said. "This nation is grateful to the men and women who wear our nation's uniform."

And that especially extends to those Americans forever lost to war, he said.

"We honor each one for their courage and sacrifice," President Bush said. "We think of the families who miss them so much. We are thankful that this nation produces such fine men and women who are willing to defend the cause."

During the 20-minute speech, the president encouraged everyone to honor the nation's past and be confident in its future.

"The ideals of July 4, 1776, still speak to all humanity, and the revolution declared that day goes on," he said. "On July 4, 2003, we still place our trust in divine providence, still pledge our lives to freedom, and we'll always believe that freedom is the hope and the future of every land."

During the holiday weekend, Wright-Patterson officials had scheduled several events celebrating 100 years of powered flight, and two of the Wright brothers' descendents were taking part in those. The president said he met them on the flightline here, and they were quick to remind him that Dayton was where the Wright brothers first drew up the plans for their flying machine.

"I wonder what Wilbur and Orville would have thought if they could have seen that flying machine I came in on today," President Bush said.

The president then offered a brief look at the nation's history.

"Every year on this day, we take special pride in our founding generations — the men and women who waged a desperate fight to overcome tyranny and live in freedom," he said. President Bush added that most Americans today could not think of the Revolutionary War's outcome being anything other than what it was.

"But those victories were far from certain," the president said. "Those brave men and women were only certain of the cause they served — the belief that freedom is a gift from God and the right of all mankind. Today, all who live in tyranny and all who yearn for freedom place their hope in the United States of America."

He said that hope has, in great measure, come from Americans who have fought and died in eras past, who have laid the foundation for the freedom Americans enjoy today.

Speaking about veterans' place in history, the president said, "They've left many monuments along their way — an undivided union, a liberated Europe and the fall of an evil empire. Millions across the world are free today because of the unselfish courage of America's veterans."

Looking more to the present and future, President Bush focused on terrorists and those who support them, saying the nation is still at war, and many Americans are still serving and sacrificing in harm's way.

"Without America's active involvement in the world, the ambitions of tyrants would go unopposed, and millions would live at the mercy of terrorists. With America's involvement, tyrants learn to fear, and terrorists are on the run," the president said to thunderous applause. "In America, our enemies made their intentions clear to us, but since that September day, we've made our intentions clear to them.

"The United States will not stand by and wait for another attack or trust the restraint and good intentions of evil men. We will act whenever it's necessary to protect the lives and liberties of the American people," he said.

Americans should be grateful for the unity past challenges have brought to the country and the renewed patriotism adversity ushered in, he said. People can also be proud of the valor seen in those who defend the United States.

"To be an American, whether by birth or by choice, is a high privilege," he said. "We can all be proud of our heritage and confident in our future."

*— Tech. Sgt. Carl Norman, AFMC Public Affairs*

# Rejoining Edwards work force with 'mommy' added to title

Like so many new mothers who have come before me, I found myself in the midst of chaos and fighting back tears as I left my son on my first day back at Edwards Air Force Base, Calif. Despite all the preplanning and days of positive self talk, getting out the door was nothing short of an emotional disaster.

The morning started fine. My nearly-4-month-old son, Ben, was smiling and cooing from his bouncy seat as I resumed my morning routine. His father was getting ready for work, too, and Ben seemed to delight in all the hustle of teeth brushing, showering and blow-drying. It was as if he were thinking, "Wow, we must be going somewhere really special today — wonder when I'm getting dressed?"

But alas, Ben realized he would be staying in his footed jammies. As mommy and daddy grabbed their coffee, cell phones and other office paraphernalia, Ben clung to his Nana, who had flown cross country to be there for the drama-packed event.

***"Of all the titles you'll hold, 'mommy' will always be the best."***

**Anonymous**

And then it came. His blue eyes widened and he lowered the boom — that quivering bottom lip he knows can bring mommy down. Sensing the impending family meltdown, daddy started in with a string of "he'll be OKs" and "he'll be fines" none of which had any impact on mommy or baby. Finally, my husband lovingly pushed me out the door, strapped me in my car and followed me down the street.

I began my 40-minute drive in hopes that National Public Radio's Carl Kasell might help combat the lump in my throat. He couldn't, and so I began flipping through the stations until it hit me that I hadn't listened to the radio in almost four months. If Carl couldn't help, J.Lo certainly couldn't either. So, I drove in silence and succumbed to thoughts of my son screaming until he spit up a tiny lung or starving to death because Nana wasn't holding the bottle as I had so carefully demonstrated.

I'm not sure how I arrived at my office or made it through that first day. Much of it is a blur. But several weeks have since passed and amazingly Ben is managing to eat, sleep and breathe while I'm away.

I'm surviving, too. But only because of the vast support network that comes with working for the Air Force. Thanks to the endless compassion and insights from co-workers and moms around Edwards and from friends at bases across the country, I'm able to continue doing what I love. Add to the list the base Child Development Center where I know he'll be safe, and for a few fleeting minutes each day, I'm naive enough to think I can do it all. (And then of course my little guy projects a bellyful of formula, so I do it all either late or wearing warm Similac with Iron.)

A few days after I had Ben, I received a note from a former boss, who is now a dear friend and my role-model mom. "Of all the titles you'll hold," she wrote, "'mommy' will always be the best." I already know she's right.

*— Ms. Leigh Anne Bierstine, AFFTC*

***Ms. Leigh Anne Bierstein, with her 4-month-old son Ben, recently discovered returning to the work force following the birth of her son was harder than she had anticipated. (Courtesy photo)***



# Firefighter recognized for saving boy's life

## *10-year-old recovering after farm pond rescue*

Heroism tags its disciples in different ways. Some do great deeds on grand scales. Others, like Tinker Air Force Base, Okla.'s, Mr. Neal Young, answer valor's call out of the spotlight, in places like a farm pond, where he saved one boy's life.

Air Force Materiel Command recently recognized Mr. Young, a station chief for the Tinker Fire Department and a Harrah Fire Department volunteer, with the Heroism Award for Civilian Firefighter for his deed.

On April 29, 2002, Chief Young received an emergency call at the Harrah station. He and his partner, Capt. Tommy Robertson, responded immediately to a drowning victim — a child.

Ten-year-old Jason Dunbar and his cousin, 7-year-old Tracy Dunbar, had gone bike riding, when Jason spotted an old tire in a muddy pond. He rode over to it, telling Tracy how much fun they could have playing with it.

Jason entered the pond and, within seconds, became submerged. Tracy jumped off his bike and cautiously went into the murky pool after his cousin. However, as the cold water approached his chest, he quickly turned back and ran to get help.

"I heard him screaming but I thought he and Jason were just yelling, just being boys," said Ms. Joi Dunbar, Jason's aunt, who shares legal guardianship of Jason.

At home watching her 14-month-old son, Ms. Dunbar eased Tracy long enough to find out what was wrong and immediately dialed 911.

Within minutes, area police, firefighters and an ambulance surrounded the pond, 200 yards from Ms. Dunbar's house.

When Chief Young and his partner arrived on the scene, three other men were already in the frigid water looking for Jason.

***Mr. Neal Young, Tinker AFB, Okla., fire station chief, (center) brings along a stuffed pooch for Jason Dunbar, the boy whose life he saved. Ms. Joi Dunbar, Jason's aunt, says she is grateful for Chief Young's efforts to save her nephew. (Photo by Ms. Margo Wright)***

"He had already been under water for about 20 minutes, so it wasn't looking good," Chief Young said. "Then, about 20 feet from the edge of the water, Tommy found him. He went down and got him and brought him up to me. I swam Jason over to the edge, pulled him out. The paramedics from the Midwest City ambulance, Tommy and I started CPR on him."

After 15 minutes a hospital helicopter arrived to airlift Jason to the hospital. His heartbeat and breathing returned after he was put onto the helicopter.

Ms. Dunbar, still waiting for word of her nephew's fate, calmed only slightly when she heard Jason was on his way to the hospital.

Her fear only worsened when she was told Jason had a 5 percent chance of living.

"He spent two weeks in the intensive care unit and another month-and-a-half in the hospital," Ms. Dunbar said.

Though Jason's condition has progressively improved, he is still in recovery at The Children's Center in Bethany.

"He still doesn't have control of his muscles and his brain has been severely damaged," Ms. Dunbar said. "I hope one day he's able to walk and talk. God had him live for a reason."

Ms. Dunbar said she copes by taking one day at a time and by praying, especially grateful for Chief Young.

"I am so thankful there are people out there like him who do these jobs," Ms. Dunbar said. "He deserves those awards and medals."

Chief Young, on the other hand, sees things a bit differently. "It's good to have the recognition, but it's just not my style," he said.

Chief Young's supervisor, Mr. Phillip Roberts, assistant chief of operations at the Tinker Fire Department, said he's not surprised how Chief Young feels. "He doesn't look for the recognition," Chief Roberts said. "He looks for the results."

Chief Young, a Tinker firefighter since 1986, also received the Oklahoma Firefighter/Emergency Medical Technician of the Year Award, the Oklahoma State Firefighters Association Medal of Valor and the Mid-Del Tinker Committee of One Hundred 2002 Heroic Deed Award.

Chief Roberts said Chief Young's actions reflect the training and dedication of the firefighters at Tinker and in Harrah.

"Chief Young had to do some real quick thinking and take some positive actions in a short period of time. In my eyes, for somebody to represent our profession in such a proficient manner, it's nothing short of heroic," Chief Roberts said.

*— Ms. Amy Welch, OC-ALC Public Affairs*

*Mr. Ron Flat, Brooks City-Base, Texas, is known as the “Limo Man.” He drives around the base in one of two limos he purchased, fulfilling a long-simmering desire to drive around in style. (Photo by Mr. Rudy Purificato)*

# No truckin’ down the road for Brooks ‘Limo Man’

In a state where pickups and sport utility vehicles rule, his regal mode of transportation arguably makes him "king of the road." As the "Limo Man" at Brooks City-Base, Texas, Mr. Ron Flat is unapologetic about his motorized lifestyle that he thoroughly enjoys on and off base.

"We would all like to be rich and have a limo," he said, admitting that owning two of them is a bit of a "stretch" in conveying the perception that he is wealthy. While he's never been "flat broke," this Brooks Clinic facility manager has managed his financial resources well enough to afford a limo fleet and the costs associated with maintaining them.

Endless chatter from fellow facility managers about their luxury car trade-ins fueled his long-simmering desire to drive to meetings in style. He realized his dream at a flea market three years ago. On sale there was a 1977 dark blue, six-door funeral coach. He was dead set on buying it.

"The price was great, the interior was good and it had low mileage," he recalls. He paid $2,600 for his first limo, a luxury car that typically costs between $50,000 to $70,000.

The irony and humor of him driving to the next facility managers' meeting in his pre-owned limo was not lost on his colleagues. Since then, Mr. Flat has been on the high road to adventure.

"When I first arrived at Brooks in my limo, the gate guards were nervous about it," he remembers. He frequently attracts attention, noting, "People stare inside the limo to see if there is a celebrity."

Sitting in the back seat of his newest used limo that cost him a paltry $3,900, Mr. Flat appears to be every bit the celebrity amid the luxury of a mini-bar, television and videocassette recorder. The car seats six to eight people comfortably. The luxury wheels are not puncture-proof, but they are "Flat tires."

He explained that all limousines are custom built. "They cut the car in half and add the extra length to the center of the vehicle," he said. The longest limos range between 40 and 45 feet.

His latest model measures between 23 and 25 feet. "Limos are usually five feet longer than normal cars," Mr. Flat noted. Their length, plus the added weight associated with customized "frills," are factors affecting fuel consumption. "I average between 15 to 16 miles per gallon," he said.

Mr. Flat chauffeurs himself around base and throughout the metropolitan area. He has become quite adept at negotiating vehicles that are more than 20 feet long. "I've been charged for double parking at the rodeo," admits Mr. Flat, who has learned the ins and outs of parking and highway maneuvering.

"It takes very little to maintain them," he said, admitting, however, that sometimes the air conditioning system conks out. This is especially troublesome in the Texas heat when high-profile passengers like 311th Mission Support Group Deputy Ms. Rita Duggan found little joy in her inaugural limo ride.

Off base, Mr. Flat has enjoyed moderate success operating a limo service. He has transported tourists to Texas Hill Country sites, hotel catering staffs to out-of-town receptions and newlyweds on their wedding day jaunts.

Perhaps one of his most conspicuous journeys was using his limo as the lead vehicle in a convoy that transported a static display F-4 Phantom jet from KellyUSA (formerly Kelly AFB) to its new U.S. Air Force School of Aerospace Medicine home.

Far from being considered mechanical lemons, Mr. Flat's fleet employed on behalf of helping people can be characterized as "limo-aide."

*— Mr. Rudy Purificato, 311th HSW PA*





## Counterdrug office honors engineer

ROME, N.Y. — Mr. John Mucks, an engineer with Air Force Research Laboratory's Information Directorate, has been honored by the Defense Department Counterdrug Technology Development Program Office.

Mr. Mucks, an electronics engineer in the directorate's information and intelligence exploitation division, was presented with the John J. Pennella award during the annual Counterdrug Counternarcotics Symposium held in May in Arlington, Va.

*— Reported by AFRL Public Affairs*

## Image Award given to Edwards colonel

EDWARDS AIR FORCE BASE, Calif. — Lt. Col. Edward Cabrera was presented a National Image Award May 22 at the Salute to Hispanics in the Military and Meritorious Service Award Banquet.

Col. Cabrera, 411th Flight Test Squadron commander, contributed to increased opportunities for Hispanic-Americans and their communities. He also distinguished himself through contributions to the country, equal opportunity and public service.

*— Reported by AFFTC Public Affairs*

## AFRL gets award for academic efforts

EDWARDS AIR FORCE BASE, Calif. — The Air Force Research Laboratory's Propulsion Directorate and its personnel at the Edwards site were presented with the Antelope Valley Bridge Award April 9.

The Antelope Valley Union High School District presented the honor for the lab's continued academic involvement.

The lab's activities have included hosting school tours at its 65-square-mile facility and providing guest speakers and chemistry and physics demonstrations for classrooms throughout the region.

*— Reported by AFRL Public Affairs*

## Weapons program wins Welch Award

EGLIN AIR FORCE BASE, Fla. — Members of a unique weapons program were recognized May 27 for winning the Air Force's highest award in acquisition management, the Welch Award, for developing and delivering a new weapon for Operation Iraqi Freedom in just 98 days.

The passive attack weapon, or PAW, is released from an F-16, B-52 or F-15E aircraft.

The weapon was designed to destroy or disable soft targets, such as a warehouse, power station or radar station without affecting nearby structures.

*— Reported by AAC Public Affairs*

## Sergeant named Instructor of Year

EGLIN AIR FORCE BASE, Fla. — Staff Sgt. Chad Ballance, an instructor at the Eglin Airman Leadership School, recently earned the Chief Master Sergeant of the Air Force Annual Enlisted Professional Military Education Award and the Airman Leadership School Instructor of the Year Award for 2002.

Throughout 2002, Sgt. Ballance taught more than 1,300 hours of instruction to 427 future noncommissioned officers.

*— Reported by AAC Public Affairs*

***Mr. Timothy Case machines a cut-to-fit aluminum sleeve for a turbine housing from a T-38 aircraft. Mr. Case, a worker in the aircraft accessories branch, won a $10,000 IDEA award for the sleeve. (Photo by Ms. Margo Wright)***

## Machinist's ideas yield $10,000 awards

TINKER AIR FORCE BASE, Okla. — Mr. Timothy Case has received two $10,000 awards from the IDEA program since December for submissions that save the Oklahoma Air Logistics Center $134,624 annually.

Mr. Case made his first submission in October after noticing that nearly three-fourths of the turbine housings from T-38 aircraft that came in for maintenance ended up in the scrap heap because the inside diameter could no longer meet the tolerances on the parts' specifications.

Every time the housing was machined, that critical inside diameter became larger, Mr. Case said, adding that his suggestion — a cut-to-fit sleeve — increases the tolerance on the part.

Mr. Case submitted his second award-winning idea one month after receiving $10,000 for the turbine housing proposal. That suggestion deals with repairs to the 51494A Turbine.

*— Reported by Ms. Jeanne Grimes, OC-ALC Public Affairs*

## Man gets Air Medal after 59-year wait

KIRTLAND AIR FORCE BASE, N.M. — After nearly six decades of waiting, a retired Air Force master sergeant and former Air Force Research Laboratory employee received his Air Medal at a June 2 ceremony here.

Mr. Trinidad Castinado received the Air Medal, second oak leaf cluster.

The original paperwork for the award was lost.

Mr. Castinado's heroic act happened on Nov. 17, 1944, when he parachuted out of a B-24 during a combat mission en route to Germany.

While climbing, the radio operator discovered his oxygen mask was not working. Mr. Castinado offered the operator his own mask and then, with the pilot's permission, bailed out of the plane.

*— Reported by AFRL Public Affairs*